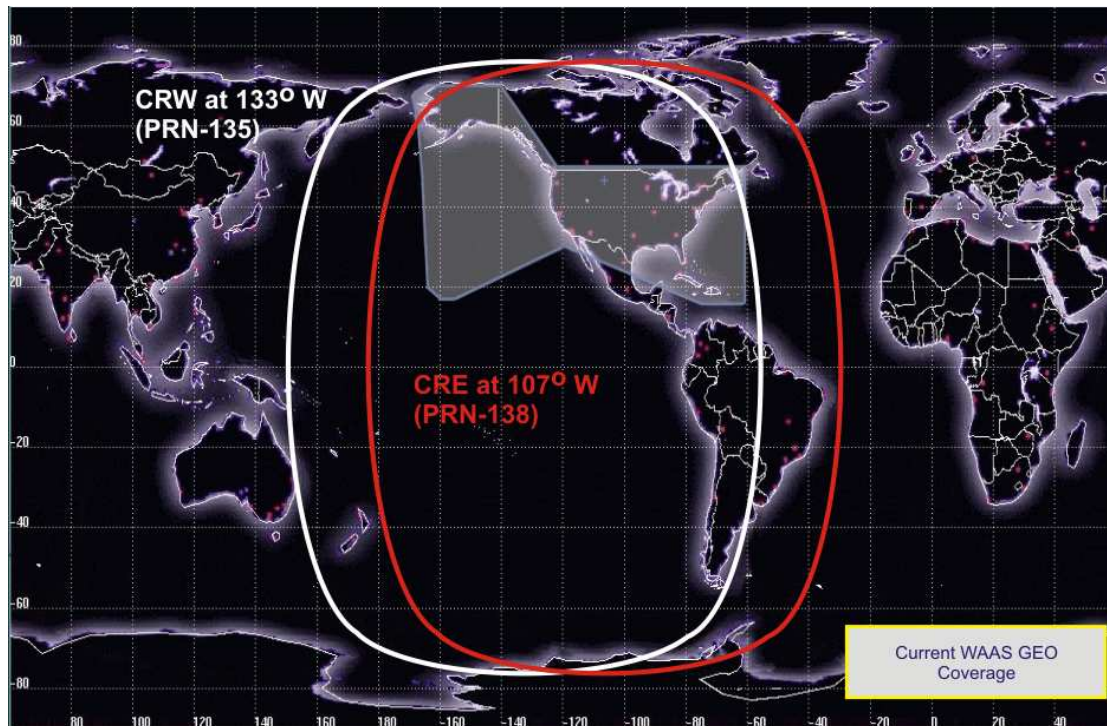


## WAAS GEO Outage Information Sheet

### Background

The WAAS signal-in-space is currently broadcast by two leased geostationary satellites (GEO).

- Intelsat (CRW) 133°W PRN - 135
- Telesat (CRE) 107.3°W PRN - 138

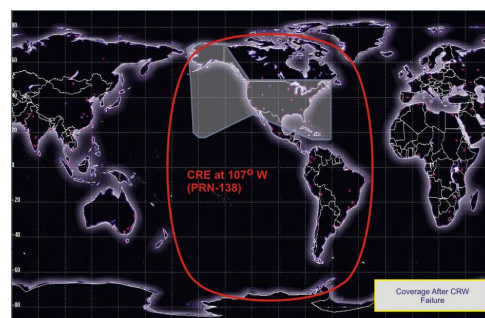


In April 2010, the Federal Aviation Administration learned of a technical issue being experienced by the Intelsat (CRW) GEO. Communication with the portion of the satellite that manages its movement had been lost. As a result, the satellite had started drifting from its correct position. For WAAS, there was no immediate impact to service, but the FAA has been monitoring the situation closely as the satellite continues to drift.

### Potential Impacts to WAAS Service

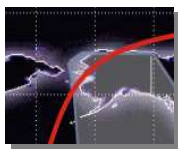
Due to the efforts of Lockheed Martin, the satellite's useful life has been extended at least into December 2010, but criteria have been established for discontinuing the WAAS signal-in-space from CRW. When this occurs, WAAS service will be affected in two ways:

- Diminished WAAS Coverage in Northwest Alaska
- Infrequent Short Term Outages During Maintenance Operations



*Last Updated: October 6, 2010*

## Diminished WAAS Coverage in Northwest Alaska



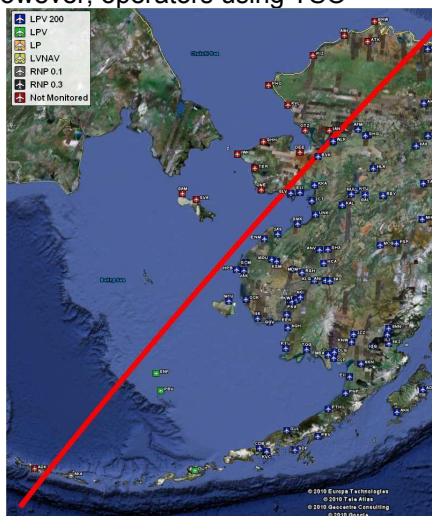
Coverage After CRW Failure

There are 16 airports in Northwest Alaska where WAAS LPV service will be affected due to the loss of the CRW GEO - all north of a line from 70°N 150°W and 64°N 164°W.

Currently, none of the 16 affected airports have published LPV approaches and users will still be able to continue to fly the existing LNAV procedures. However, operators using TSO-

C145/C146 receivers for en route, terminal, or IFR approach operations will be required to confirm that GPS receiver autonomous integrity monitoring (RAIM) with fault detection and exclusion (FDE) will be available for the flight during planning. This is required in accordance with (IAW) Aeronautical Information Manual (AIM) paragraph 5-1-15 f.

Due to reduced WAAS availability, any required alternate airport must have an approved instrument approach procedure, other than GPS, that is anticipated to be operational and available at the estimated time of arrival and which the aircraft is equipped to fly IAW AIM paragraphs 1-1-20 c 6 and the note in 1-1-19 g.



### Airports in Affected Area Include:

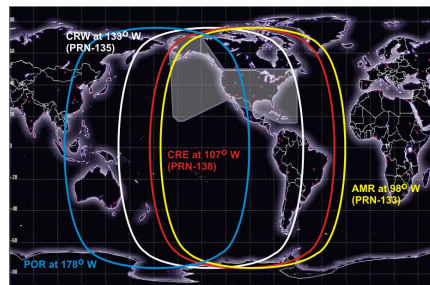
- Adak (ADK)
- Atkasuk Edward Burnell Sr Memorial (ATK)
- Wainwright (AWI)
- Wiley Post-Will Rogers Memorial (BRW)
- Deering (DEE)
- Gambell (GAM)
- Bob Baker Memorial (IAN)
- Wales (IWK)
- Kivalina (KVL)
- Nome (OME)
- Ralph Wien Memorial (OTZ)
- Point Hope (PHO)
- Point Lay LRRS (PIZ)
- Shishmaref (SHH)
- Savoonga (SVA)
- Teller (TER)

## Occasional Short Term Outages during Maintenance Operations

The other impact to WAAS service, due to the loss of CRW, may be infrequent, temporary service outages throughout the WAAS service volume due to lack of redundant GEO coverage. This may occur when a switch between the primary and backup GEO uplink subsystem (GUS) occurs. Although these switchovers are rare events, it may take up to five minutes to fully restore LPV service after such an occurrence.

## Next Steps

The FAA has an initiative, already in progress, to integrate a new GEO (known as AMR) into WAAS. The integration of AMR (98°W, PRN-133) was originally expected to be complete by December 2010, but the FAA is now working to accelerate this integration to allow operational use of the GEO by November. The successful integration of AMR will eliminate any infrequent, short-term maintenance outages over all of CONUS and in some portions of Alaska that would occur with the loss of CRW.



The FAA is also investigating options for restoring WAAS LPV and LNAV/VNAV service to the Northwest area of Alaska. One potential solution is the re-integration of the POR GEO (178°W, PRN-134). POR was formerly used by WAAS prior to the transition to the CRW GEO.

*The FAA is committed to keeping its users aware of any potential changes that may affect WAAS service and will provide updates as the situation evolves. Periodic updates will be provided on the Satellite Based Augmentation System (WAAS) / News section of our website accessible from <http://gps.faa.gov>.*